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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/533,365	03/22/2000	Masayuki Kitajima	980069B	9270

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EXAMINER

EVERHART, CARIDAD

ART UNIT PAPER NUMBER

2825

DATE MAILED: 08/12/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/533,365	Applicant(s) KITAJIMA ET AL.	
	Examiner Caridad M. Everhart	Art Unit 2825	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 32-37 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-37 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All   b) ☐ Some \*   c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☒ Certified copies of the priority documents have been received in Application No. 09/014,981.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). ____   |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>2</u> | 6) <input type="checkbox"/> Other: _____                                    |

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzoh, et al. ("Uzoh")(US 6,113,769) or over Alpaugh, et al. ("Alpaugh")(US 4,152,467) or over Burnett, et al. ("Burnett")(US 4,904,506).

Uzoh discloses an apparatus which can be used for semiconductor substrates (col. 3, lines 53-60) and for a microelectronic device (col. 1, lines 14-20); it comprises a bath which may comprise solder (col. 3, lines 45-50); lines provide inert and o<sub>2</sub> gases (Fig. 1 and Fig. 2, features 62 and 64); there is an oxygen monitor (col. 4, lines 26-40).

Alpaugh discloses a device which comprises a bath which comprises solder (col. 1, lines 62-68); the gases comprise oxygen and inert gas which is supplied and the oxygen is monitored (col. 5, lines 54-64).

Burnett discloses an apparatus which comprises a bath which comprises solder (col. 1, lines 55-63); the bath is supplied with oxygen and inert gas and the oxygen is monitored (col. 7, lines 15-23).

None of Uzoh nor Alpaugh nor Burnett disclose gold bump elements; however, the apparatus limitations are met as pointed out above, and the patentability or unpatentability of an apparatus claim is determined by the apparatus limitations, and not by the use of the apparatus.

Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uzoh, et al.

Uzoh is relied upon as discussed above. Uzoh further discloses a transfer mechanism (col. 3, lines 38-40). Although gold bumps are not disclosed, it is believed that the apparatus limitations are met by Uzoh, for the reasons given above.

Claims 34, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzoh in view of Harnden et al (US 5,795,405).

Uzoh is silent with respect to the details of the transport mechanism.

Harnden discloses an apparatus for suspending a substrate in a solder bath comprising a conveyor mechanism comprising clips in a chain (col. 9, lines 55-66).

One of ordinary skill in the art would have been motivated to have combined Uzoh with the mechanism disclosed by Harnden because Uzoh discloses a mechanism for

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transporting a substrate, and one of ordinary skill in the art would have been motivated to have used a mechanism known in the art as the transport mechanism.

Claims 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uzoh in view of Wanesky(US 3,992,236).

Uzoh does not teach a suction mechanism for the transport mechanism.

Wanesky teaches a support for a chip in which the mechanism of holding the chip is suction (col. 2, lines 23-43).

One of ordinary skill in the art would have been motivated to have used this method in the apparatus taught by Uzoh because Wanesky teaches that this method can be used to support substrates to be electroplated (col. 1, lines 30-33).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Caridad M. Everhart whose telephone number is 703-308-3455. The examiner can normally be reached on Monday through Fridays 7:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew S. Smith can be reached on 703-308-1323. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

8-6-02

*C. Everhart*  
Caridad M. Everhart  
Principal Examiner